

CLAIMS:

What I claim is:

- Sub A<sup>1</sup>
1. A method of providing a human-computer user interface, comprising the steps of:
    - (a) providing the user with navigational tools for defining and retrieving objects based on a resource locator thereof;
    - (b) providing an object search engine for selecting a set of objects according to a user-defined content criteria and returning respective resource locators of selected objects; and
    - (c) providing an hierarchal organizational structure in graphic format for the set of objects, wherein the hierarchal organizational structure is automatically generated based on a content of or linkage between objects.
  2. The method according to claim 1, further comprising the step of inserting objects extrinsic to the user-defined search criteria into the hierarchal organizational structure of selected objects.
  3. The method according to claim 2, wherein the extrinsic objects comprise commercial messages.
  4. The method according to claim 2, wherein the extrinsic objects comprise objects identified through a collaborative filter process.
  5. The method according to claim 2, wherein the extrinsic objects are contextually related to the user-defined search criteria.
  6. The method according to claim 2, wherein the extrinsic objects are contextually appropriate for a positioning within the hierarchal organizational structure.
  7. The method according to claim 1, wherein the hierarchal organizational structure comprises a tree structure displaying at least three hierarchal levels.

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8. The method according to claim 1, wherein the hierarchal organizational structure comprises a hyperbolic tree structure.

9. The method according to claim 1, wherein the hierarchal organizational structure comprises a display generated by a hyperbolic tree applet.

10. The method according to claim 3, wherein a commercial message sponsor pays for delivery of commercial messages based on a semantic context of message delivery.

11. The method according to claim 3, wherein a commercial message sponsor pays for delivery of commercial messages based on a value of a subsequent commercial transaction with the user.

12. The method according to claim 3, wherein the objects are identified through a collaborative filter process.

13. The method according to claim 3, wherein the extrinsic objects are contextually related to the user-defined search criteria.

14. The method according to claim 1, wherein the hierarchal organizational structure comprises a state independent information object.

15. The method according to claim 1, further comprising the step of ranking members of the set of objects within a single hierarchal class based on a correspondence to the user-defined content criteria.

16. The method according to claim 1, further comprising the step of receiving a ranking preference from the user for a ranking method for ranking members of the set of objects within a single hierarchal class.

17. The method according to claim 1, further comprising the step of graphically representing a history of access to the set of objects.

18. The method according to claim 1, further comprising the steps of manipulating an object within the hierarchal organizational structure through the graphic user interface, and requesting information content corresponding to the manipulated object.

19. The method according to claim 1, wherein at least two distinct predetermined hierarchical organizations of information are provided, each having at least three hierarchal levels for a universe of objects, further comprising the steps of:

- (a) defining a relevant hierarchy from among the at least two distinct predetermined hierarchical organizations of information;
- (d) displaying links to the set of objects according to the relevant hierarchy; and
- (e) storing at least a subset of the presented links within the relevant hierarchy as a state independent object.

20. The method according to claim 1, further comprising the step of defining a user profile, for modifying the selection by the object search engine, and wherein user profile is stored in an encrypted form which is resistant to detailed interrogation.

21. The method according to claim 1, further comprising the step of presenting the hierarchal organizational structure with an applet, wherein the returned respective resource locators of selected objects are transmitted to the applet, which formats the set of objects in the graphic format hierarchal organizational structure, based on a relationship of a content corresponding to each object.

22. The method according to claim 1, further comprising the step of providing an adaptive user profile applet, comprising a collaborative filter for initial classification, which subsequently is modified based on user observation, wherein the user-defined content criteria is based on an explicit user input and a function of the adaptive user profile applet.

23. The method according to claim 1, further comprising the step of defining the hierarchal organizational structure as a user taxonomic hierarchy of interests, correlating the user taxonomic hierarchy with a set of references taxonomic hierarchies, and modifying the user taxonomic hierarchy based on sets of rules associated with a reference taxonomic hierarchies having high correlations.

24. The method according to claim 1, wherein at least one object has an associated digital rights rule, further comprising the step of applying digital rights rules to accesses of objects by the user.

25. The method according to claim 24, wherein at least one digital rights rule provides a positive incentive to the user.

26. A computer readable medium having stored thereon a software program for executing the method according to claim 1.

27. A system for providing a human-computer user interface, comprising:

(a) a set of navigational tools for defining and retrieving objects based on a resource locator thereof;

(b) an object search engine for selecting a set of objects according to a user-defined content criterion and returning respective resource locators of selected objects; and

(c) means for presenting an hierarchal organizational structure in graphic format for the set of objects, wherein the hierarchal organizational structure is automatically generated based on a content of or linkage between objects.

28. The system according to claim 27, wherein objects extrinsic to the user-defined search criteria are inserted into the hierarchal organizational structure of selected objects.

29. The system according to claim 28, wherein the extrinsic objects comprise commercial messages.

30. The method according to claim 28, wherein the extrinsic objects comprise objects identified through a collaborative filter process.

31. The system according to claim 28, wherein the extrinsic objects are contextually related to the user-defined search criteria.

32. A method of visualization of a set of elements, comprising:

(a) defining a hierarchy of objects, each hierarchal level within the hierarchy, below a top level, having at least one object, the at least one element having one parent hierarchal object and optionally a set of child objects, with a set of content objects populating the hierarchy;

(b) defining, based on a user input, a selected object within the hierarchy for examination; and

(c) generating a display presenting the selected object element and any child objects thereof; a representation of parental objects within the hierarchy, with a representation of a hierarchal representation thereof; wherein each of the parent and child objects is associated with a hyperlink, a selection of a respective hyperlink serving to transform that element into the selected element, wherein when an object representing information content is selected, an associated set of related objects is displayed.

33. The method according to claim 32, wherein the associated set of related objects is defined by a process of collaborative filtering.

34. The method according to claim 32, wherein the content object defines a product promoted for sale.

35. A method of visualization of a set of elements, comprising:

(a) defining a natural hierarchy of objects;

(b) receiving a user limiter to define a set of objects in the natural hierarchy;

(c) inserting at least one object extrinsic to the user limiter within the natural hierarchy of objects to provide artificial hierarchal relationships;

(d) displaying the set of objects and extrinsic objects with a graphic representation of the natural and artificial hierarchal relationships.

36. The method according to claim 35, wherein the inserting is controlled by a process of collaborative filtering.

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